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A new race of the Sand Martin *Riparia riparia* from Israel

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The Sand Martin *Riparia riparia* is the second most common hirundine migrating through Israel after the Swallow *Hirundo rustica*. It is abundant in spring and also common in autumn throughout the Rift Valley. At Eilat, large numbers have been recorded moving northwards during the spring, with peak days of more than 20,000 birds. The Sand Martin does not breed in Israel but isolated breeding populations are found in the neighbouring countries of Egypt and northern Syria.

Between 1984 and 1988, Merav Gellert and H.S. ringed more than 5000 Sand Martins in Eilat during consecutive seasons, chiefly in spring. During this study, many birds which were trapped and examined were assigned to the nominate race, *riparia*, by virtue of their plumage colouration and larger size (wing length >100 mm). Also examined were a few individuals which differed by their smaller size (wing length 92–105 mm), paler upperparts, and more diffuse breast-band. These birds were considered to match the Central Asian race, *diluta*. In addition to these, other small Sand Martins (wing length 87.5–98.6 mm) which were noticeably darker above were also trapped regularly in spring in quite large numbers (often >10 birds per day). Initially these birds were identified as the race *shellei* (Nile valley, Egypt and northern Sudan) as their measurements were compatible with those given in Vaurie (1959) and Cramp (1988). In order to check the identity of the subspecies to which these birds belong, H.S. brought three specimens to The Natural History Museum, Tring, for comparison with other material collected at

the same time of year. It soon became apparent that these birds not only differed from *shellei* but were also obviously distinct from all other subspecies or populations found breeding in Asia, Eurasia and the Nearctic, i.e. nominate *riparia*, *ijimae*, *taczanowskii*, *tibetana*, *diluta*, *fokienensis* and *indica*, listed in Peters (1960), and represented in the skin collections at Tring. They differed in their combination of small size, darker upperparts, darker grey-brown breast-band, and brownish chin with distinct dark brownish speckling on the throat. In view of these obvious differences we propose the name

***Riparia riparia eilata* subsp. nov.**

Type. Adult male. Eilat, Israel, 10 April 1990. Collected by Hadoram Shirihi. In the collection of The Natural History Museum (formerly British Museum (Natural History)), Tring; Reg. No. 1991.11.1.

Description (fresh plumage). Upperparts mainly dark earth-brown, with crown to mantle, upper scapulars, lesser and median coverts more sooty-brown; greater coverts, tertials, rump and upper tail-coverts somewhat duller and paler (latter two areas faintly edged greyish); remiges and rectrices blackish-brown; lores and feathering near gape dark grey-brown and paler than crown; forehead near bill base tinged buffish; ear-coverts and cheeks dark grey-brown; chin buffish-brown; throat feathers whitish with rather broad, brown tips (c. 1.0 mm wide), giving the appearance of a brownish throat. Remainder of underparts white with contrasting dark grey-brown breast-band and flanks; underwing-coverts and axillaries dusky grey-brown; bill, legs, and iris black.

Measurements (mm). Wing 95; tail 45; bill (from skull) 9; tarsus 10.

Comparison with other races. In size, *eilata* shows a wing (range 87.5–98.6 mm) comparable with the short-winged races *shellei* (Nile Valley & N. Sudan) and *indica* (N. India), which have wing ranges of 88–98 mm and 88–99 mm respectively. In fresh adult plumage (spring), *eilata* differs from *shellei* in being distinctly darker earth-brown above (ground colour as nominate *riparia* or slightly darker, and in tone more like the warmer sooty-brown *ijimae*) rather than light to medium greyish-brown. Both races show rather distinct and sharply defined breast-bands but *eilata* differs in having the chin buffish-brown with broad, dense brown spotting or mottling on the throat (*shellei* has these areas mainly whitish), and in this respect *eilata* is markedly different from all other races (freshly plumaged adults of other races only very rarely show any faint pale brown speckling on the tips of the throat feathers). The race *indica* is noticeably paler above than either *eilata* or *shellei* with more greyish suffusion to the upperparts and also shows a broader, more diffuse and paler breast-band. *Diluta* (central Asia, from lower Ural river to Mongolia) is very similar to *indica* in its overall colouration (or fractionally darker) with mouse-grey suffusion to the upperparts, and noticeably paler than either *eilata* or *shellei*. On measurement it averages larger than *eilata*, *indica* or *shellei* (see Table 1), but is smaller than nominate *riparia* (W. Palearctic & N. America, wing range 96–120 mm) or *ijimae* (S. E. Siberia & Japan, wing range 96–111 mm); also its breast-band is considerably wider than in *eilata* and the other races discussed above.

TABLE 1.
Measurements of adults (mm), sexes combined

	<i>n</i>	Wing		<i>n</i>	Tail		Source
		range	mean, or range of means		range	mean, or range of means	
<i>riparia</i>	> 1,000	96–120	102.9–108	52	45–54	48.3–51	2,5
<i>ijimae</i>	> 50	96–111	102–105	12	46–52	50	1,2
<i>diluta</i>	> 50	95–108	101–102	13	42–56	49	1,3,5
<i>indica</i>	10	88–99	93.4	10	38–43	40.4	1
<i>shelleyi</i>	23	88–98	93–94.6	13	39–47	42.6–42.9	2,5
<i>eilata</i>	105	87.5–98.6	94	20	42–47	44	4

Sources: (1) Nat. Hist. Mus., Tring, (2) BWP 5, (3) Dementiev & Gladkov (1954), (4) ringed in Eilat, (5) Vaurie (1959).

Distribution, geographical variation, and remarks. The race *eilata* is a quite common spring migrant through Eilat, comprising *c.* 5% of birds on passage between February and June. From *c.* 2000 Sand Martins that were trapped in spring and examined in detail, 105 individuals showed the diagnostic characters of *eilata*. If this sample is unbiased, it indicates that several thousand migrants of this form pass through each spring. Birds showing *eilata* characters were ringed between 20 February and 24 April, peaking between 20 March and 6 April. Within this period recognizable waves occurred for a few days, with up to 13 individuals ringed in one morning.

The race *diluta* (comprising *c.* 20% of the species on spring migration) is recorded in Eilat between mid-March and mid-June, with the bulk arriving between the end of March and the first week of May, and peaking between 5 and 20 April. Nominate *riparia* (comprising 75% of the species on spring migration) passes through Eilat all spring (February–June), with the bulk occurring between the second week of April and the fourth week of May, and peaking between 23 April and 23 May.

Birds showing *eilata* features which were ringed in Eilat showed normal migratory behaviour, i.e. migrating northwards through the Arava valley with large mixed flocks of nominate *riparia* and *diluta*. The fact that individuals of *eilata* have a shorter wing length, and that their peak migration is earlier than nominate *riparia* and somewhat earlier than *diluta*, suggests the possibility of a southern breeding population perhaps from an isolated breeding area east of Israel, possibly in Syria or Iraq where some isolated populations are known to occur. However, we know of no museum material from these regions during the breeding season.

The migration of the Sand Martin through Eilat is more protracted in autumn and has been less intensively studied, but the few ringed birds that have been examined confirm that nominate *riparia* is the dominant subspecies passing through the area, while *diluta* is scarce. Smaller numbers probably of *eilata* have been trapped in autumn (including young birds), but these have not been as intensively examined as spring birds.

Geographical variation in the Sand Martin is predominately clinal (Vaurie 1959, Cramp 1988), with size becoming smaller and depth of ground colour paler towards the south, resulting in gradation and intermediate populations over a wide area between the northern, largest and darkest forms (nominate *riparia* and *ijimae*, occupying a wide zone in the Palearctic and Nearctic) and the southern, smallest and palest forms (*diluta*, *indica* and *shellei*, breeding in southern Asia and Egypt). Within this general pattern *eilata* stands out as the smallest and darkest form.

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IN BRIEF

ON THE PRESENCE OF THE BLUE-FOOTED BOOBY *SULA NEBOUXII* ALONG THE SOUTH COAST OF PERU

The Blue-footed Booby *Sula nebouxii* has a restricted range along the Pacific coast of tropical America, between Mexico and northern Peru, with an outlying population on the Galapagos Islands. It favours semi-arid regions for breeding and is consequently largely absent from the very humid bight between northern Ecuador and Panama, including the whole of Pacific Colombia (Murphy 1936, *Oceanic Birds of South America*).

Some of the largest known breeding colonies lie off northern Peru, notably at the Lobos Islands off dep. Lambayeque (6°–7°S), but regular breeding occurs as far south as the Gunaípe Islands (8°30'S) off dep. La Libertad. In this region, at the northern end of the cool upwelling zone of the Peru (Humboldt) Current, it usually outnumbers the Peruvian Booby *Sula variegata*, a characteristic species of the upwelling zone, which becomes dominant south of 8°S.

Following many years of observations along the south coast of Peru, I have accumulated numerous records of *nebouxii*, which indicate a regular annual post-breeding dispersal of juveniles far to the south of the normal breeding range. At Mollendo, dep. Arequipa (17°S), the birds usually